

**REMARKS**

1. Applicant has filed this Reply & Amendment responsive to the Office action having a mailing date of November 30, 2007 rejecting all of Applicant's claims and objecting to claims 200-207.
2. Applicant has amended claims 186, 188, and 215 to correct typographical and syntax errors only. No new subject matter has been added to these claims.
3. In response to the Examiner's comments in paragraph 9 (Allowable Subject Matter) of the instant Office Action, Applicant has added new claims 259-290 and cancelled claims 200-207.

***Rejection of Claims 186, 188, 190, 193, 194 and 196  
under 35 USC §102(b) over Fox (US 5,285,347)***

4. Applicant submits that the crux for the Examiner's rejection of these claims is his statement regarding Fox "...and the cooling system has no component acting as a reservoir while the cooling system is in operation; ..." Applicant submits that this statement is not supportable and can not be used as the basis for rejecting these claims.
5. At the time of the filing of Fox, forced circulation liquid cooling systems consisted of 3 separate components (excluding tubing and other liquid pathways to transport the coolant): heat transfer units to absorb heat from the heat generating components; heat dissipaters to dissipate the heat transferred to the coolant in the heat transfer units; and reservoirs with pumps disposed therein for storing coolant and forcing circulation of the coolant through the liquid cooling system. Hence the reference to these as 3-piece systems. Applicant's invention is the elimination of one of these separate components (i.e. the reservoir) resulting in a 2-piece system. The advantages and benefits of eliminating the reservoir are numerous and have been explained previously by the Applicant.

6. The system described in Fox is not even a forced circulation liquid cooling system as is disclosed in Applicant's invention. It is what is commonly referred to as a "heat pipe" system. Specifically, the primary method used in heat pipe systems (and in Fox) to cool the heat-generating components is an air-cooled device (e.g. a heat sink) and the liquid coolant, when used, is employed to cool the air-cooled device.

7. In Fox, 3 pieces of the heat pipe system are depicted: a "hybrid heat sink 20 (or 120)," a "radiator 34 (or 134)" and a "pump 22 (or 122)." No where in the Fox drawings, specification or claims is there any description of the design or operation of the pump 22(or 122) or the radiator 34 (or 134) or reference to or even implication of the elimination of reservoir. In fact, there is barely any discussion of the pump 22(or 122) or the radiator 34 (or 134). This is because the focus of the disclosure and the claims in Fox are directed to the heat sinks and the operation of the "pump 22 (or 122)" and the "radiator 34 (or 134)" assumed to be known in the art.

8. Fox has chosen to refer to component 22 (or 122) as a "pump." The Examiner cannot infer from the "choice of descriptors" by Fox, that the reservoir in the liquid cooling system has been eliminated merely because there is no reference to it one way or the other in the reference. Additionally, Applicant submits that the "pump 22 (or 122)" in Fox must have a reservoir (for the liquid coolant) in order to operate.

9. Applicant submits that, in view of its remarks above, it has overcome the Examiner's rejection above of claims 186, 188, 190, 193, 194 and 196 and that these claims are in condition for allowance..

***Rejection of Claims 187, 191, 192 and 195 under 35 USC §103(a) over Fox***

10. Applicant submits that, since these claims are directly or indirectly dependent on claims 186 and 194 and that the rejection of claims 186 and 194 have been overcome above, the rejection of claims 187, 191, 192 and 195 is similarly overcome and that these claims are in condition for allowance.

***Rejection of Claims 187 and 197 under 35 USC §103(a) over Fox in view of Bingler (US6,668,911)***

11. Applicant submits that, since these claims are directly or indirectly dependent on claims 186 and 194 and that the rejection of claims 186 and 194 have been overcome above, the rejection of claims 187 and 197 is similarly overcome and that these claims are in condition for allowance.

***Rejection of Claims 198, 199, 208-213, 214, 215 and 217 under 35 USC §103(a)  
over Fox in view of Kang (US 6142222)***

12. The Examiner's rejection of these claims is (again) based on the Examiner's statement with respect to Fox "...and the cooling system has no component acting as a reservoir while the cooling system is in operation..."

13. For the same reasons given in paragraphs 4-8 above, Applicant submits that it has overcome the Examiner's rejection above of claims 198, 199, 208-213, 214, 215 and 217 and that these claims are in condition for allowance..

***Rejection of Claim 216 under 35 USC §103(a) over Fox in view of Bingler (US6,668,911)***

14. Applicant submits that, since this claim is dependent on claim 214 and that the rejection of claim 214 has been overcome above, the rejection of claim 216 is similarly overcome and that this claim is in condition for allowance.

***Allowable Subject Matter***

15. In response to the Examiner's comments in paragraph 8 of the instant Office Action, Applicant has added claims 259-290. Applicant submits that independent claims 259, 267, 271 and 287 are

patentably distinct from independent claims 186, 194, 198 and 214 and each includes a forced liquid cooling system having a forced circulation means disposed in the heat exchange unit and no component acting as a reservoir in the liquid cooling system while the system is in operation. Since these claims 259, 267, 271 and 287 are patentably distinct from claims 186, 194, 198 and 214 and since claims 200-207 have been cancelled, all of the claims which depend directly or indirectly on these claims 259, 267, 271 and 287 are patentable distinct from all of the claims which depend directly or indirectly on claims 186, 194, 198 and 214

***Conclusion***

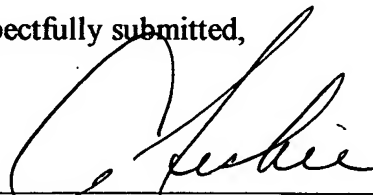
29. Applicant submits that in view of its remarks above that it has overcome all of the Examiner's rejections of claims 186-217 and that claims 186-217 and claims 259-290 are in condition for allowance.

Should there be any further comments or issues; the Applicant respectfully invites contact of the undersigned at the telephone number indicated below or at [art.fisher@patentdominion.com](mailto:art.fisher@patentdominion.com).

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Respectfully submitted,



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